

WE CLAIM:

1. A roller assembly comprising the following:
a frame member;
a plurality of front roller members;
a plurality of rear roller members corresponding in number to the plurality of front roller members; and
a plurality of walking beams pivotably connected to the frame member, each of the walking beams connecting one of the front roller members with a respective one of the rear roller members.

2. A roller assembly according to claim 1, wherein the front roller members and the rear roller members have respective radial axes, and the front and rear roller members are mounted on the walking beams such that the radial axes of the front roller members are offset from the radial axes of the rear roller members.

3. A roller assembly according to claim 1, wherein the frame member comprises a generally rectangular outer frame.

4. A roller assembly according to claim 3, wherein the generally rectangular outer frame of the frame member is fabricated from tubular steel.

5. A roller assembly according to claim 1, further comprising an attachment mechanism secured to the frame member, the attachment mechanism being adapted and constructed to facilitate attachment of the roller assembly to a tow vehicle.

6. A roller assembly according to claim 5, further comprising a hitch mechanism secured to the frame member, the hitch mechanism being adapted and constructed to facilitate attachment of the roller assembly to a second vehicle.

7. A roller assembly according to claim 6, wherein the attachment mechanism and the hitch mechanism are secured on opposite sides of the frame member.

8. A roller assembly according to claim 1, wherein the front roller members and the rear roller members comprise wheel and tire assemblies.

9. A roller assembly according to claim 8, wherein the wheel and tire assemblies are secured to the walking beams by lubricated bushings.

10. A roller assembly according to claim 1, further comprising at least one reinforcing beam secured to the frame member.

11. A roller assembly according to claim 10, wherein the at least one reinforcing beam comprises a pair of parallel reinforcing beams secured at a central portion of the frame member.

12. A roller assembly according to claim 11, wherein at least one of the roller members is mounted between the reinforcing beams.

13. A roller assembly for compacting road surfaces during paving operations, the roller assembly comprising the following:

a generally rectangular steel frame member;

five front roller members;

five rear roller members; and

five walking beams pivotably connected to the frame member, each of the

walking beams connecting one of the front roller members with a

respective one of the rear roller members.

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A roller assembly according to claim 13, wherein the front roller members and the rear roller members have respective radial axes, and the front and rear roller members are mounted on the walking beams such that the radial axes of the front roller members are offset from the radial axes of the rear roller members.

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A roller assembly according to claim 14, further comprising an attachment mechanism secured to the frame member, the attachment mechanism being adapted and constructed to facilitate attachment of the roller assembly to a tow vehicle.

117/16. A roller assembly according to claim 15, further comprising a hitch mechanism secured to the frame member, the hitch mechanism being adapted and constructed to facilitate attachment of the roller assembly to a second vehicle.

118/17. A roller assembly according to claim 16, wherein the attachment mechanism and the hitch mechanism are secured on opposite sides of the frame member.

119/18. A roller assembly according to claim 17, wherein the front roller members and the rear roller members comprise wheel and tire assemblies, and the wheel and tire assemblies are secured to the walking beams by lubricated bushings.

120/19. A roller assembly according to claim 1, further comprising a pair of parallel reinforcing beams secured at a central portion of the frame member, whereby at least one of the front roller members is mounted between the reinforcing beams.

20. A method of compacting paving material distributed on a road surface, the method comprising the following steps:

providing a roller assembly comprising a frame member, a plurality of front roller members, a plurality of rear roller members corresponding in number to the plurality of front roller members, and a plurality of walking beams pivotably connected to the frame member, each of the walking beams connecting one of the front roller members with a respective one of the rear roller members;

connecting the roller assembly to a tow vehicle; and

~~towing the roller assembly over the paving material.~~

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